MILITARY SPECIFICATION

ADAPTERS, CONNECTOR, COAXIAL, RADIO FREQUENCY, (BETWEEN SERIES AND WITHIN SERIES), GENERAL SPECIFICATION FOR

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers between series and within series, radio frequency (rf), coaxial connector adapters (see 6.1).

1.2 Classification. Adapters shall be of the following classes, as specified (see 3.1):

Class 1 - Characteristics are completely defined to provide superior rf performance.
Class 2 - Characteristics are appropriately defined to provide required rf performance.

1.2.1 Military part number. The military part number shall consist of the letter 'M' followed by the specification sheet number, and a five-digit dash number (see 3.1).

Example: M55339/01-00001

Military designator and specification sheet number
Dash number (designating brass body with a nonsignificant number, see NOTE)

NOTE: The first digit in the dash number will be assigned to designate the material of the adapter body; i.e., '0' for brass; '1' for phosphor bronze; '2' for aluminum; '3' for corrosion-resisting steel; '4' for copper-beryllium; '5' to be used between series SMA and other series. SMA body to be copper beryllium and the rest of the adapter to be brass; '6' to be used between series SMA and other series. SMA body to be corrosion resistance steel and other series body to be brass; succeeding digits will be assigned to designate the former 'UG' number or a nonsignificant number, as applicable (see 3.1).

2. APPLICABLE DOCUMENTS

2.1 Government specifications and standards. Unless otherwise specified, the following specifications, standards, and handbooks, of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation, form a part of this specification to the extent specified herein.

SPECIFICATIONS

FEDERAL

L-P-389 - Plastic Molding Material, FEP Fluorocarbon, Molding and Extrusion.
L-P-403 - Plastic Molding Material, Polytetrafluoroethylene (TFE-Fluorocarbon).

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: US Army Communications - Electronic Command, ATTN: DRSEL-PED-CM-DM, Department of the Army, Fort Monmouth, NJ 07703 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

O-F-499 - Flux, Brazing, (Silver Alloy, Low-Melting Point).
QQ-A-225/6 - Aluminum Alloy Bar, Rod, and Wire; Rolled, Drawn, or Cold Finished, 2024.
QQ-B-613 - Brass, Leaded and Nonleaded: Flat Products (Plate, Bar, Sheet, and Strip).
QQ-B-626 - Brass, Leaded and Nonleaded: Rod, Shapes, Forgings, and Flat Products with Finished Edges (Bar and Strip).
QQ-B-654 - Brazing Alloys, Silver.
QQ-B-750 - Bronze, Phosphor; Bar, Plate, Rod, Sheet, Strip, Flat Wire, and Structural and Special Shaped Sections.
QQ-C-530 - Copper-Beryllium Alloy Bar, Rod, and Wire (Copper Alloy Numbers 172 and 173).
QQ-C-533 - Copper-Beryllium Alloy Strip (Copper Alloy Numbers 170 and 172).
QQ-C-576 - Copper Flat Products with Slit, Slit and Edge-Rolled, Sheared, Sawed, or Machined Edges, (Plate, Bar, Sheet, and Strip).
QQ-S-571 - Solder, Tin Alloy: Tin-Lead Alloy; and Lead Alloy.
QQ-S-763 - Steel Bars, Wire, Shapes, and Forgings, Corrosion-Resisting.
WW-T-799 - Tube, Copper, Seamless, (For Use with Solder-Flared or Compression-Type Fittings).
ZZ-R-765 - Rubber, Silicone.

MILITARY

MIL-I-17214 - Indicator, Permeability; Low-Mu (Go-No-Go).
MIL-C-39012 - Connectors, Coaxial, Radiofrequency; General Specification For.
MIL-G-45204 - Gold Plating, Electrodeposited.
MIL-C-55330 - Connectors, Preparation For Delivery Of.

(See supplement 1 for list of associated specification sheets.)

STANDARDS

FEDERAL

FED-STD-H28 - Screw-Thread Standards for Federal Services.

MILITARY

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
MIL-STD-202 - Test Methods for Electronic and Electrical Component Parts.
MIL-STD-889 - Dissimilar Metals.
MIL-STD-1285 - Marking of Electrical and Electronic Parts.
MIL-STD-45662 - Calibration Systems Requirements.

(Copies of specifications, standards, handbooks, drawings, and publications required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. The issues of the documents which are indicated as DoD adopted shall be the issue listed in the current DoDISS and the supplement thereto, if applicable.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI B46.1 - Surface Texture.

(Applications for copies should be addressed to the American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.)

(Industry association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

3. REQUIREMENTS

3.1 Specification sheets. The individual item requirements shall be as specified herein and in accordance with the applicable specification sheets. In the event of any conflict between the requirements of this specification and the specification sheets, the latter shall govern.

3.2 Qualification. Adapters furnished under this specification shall be products which are qualified for listing on the applicable qualified products list at the time set for opening of bids (see 4.4 and 6.4).

3.3 Material. A material shall be used which will enable the adapters to meet the performance requirements of this specification (see table I). If materials other than those specified in table I are used, the contractor shall certify to the qualifying activity that the substitute material is equally suitable. Acceptance of approval of any constituent material shall not be construed as a guaranty of the acceptance of the finished product. Materials used for all parts, except hermetic-sealed adapters, shall be nonmagnetic.

TABLE I. Materials.

Material	Applicable specification
Brass	QQ-B-613 or QQ-B-626
Copper-beryllium	QQ-C-530 or QQ-C-533
Phosphor bronze	QQ-B-750
Soft copper	QQ-C-576
Copper tube	WW-T-799
Aluminum	QQ-A-225/6
Corrosion-resisting steel	QQ-S-763
Flux	O-F-499
Plastic material (TFE fluorocarbon)	L-P-403
Plastic material (FEP fluorocarbon)	L-P-389
Silicon rubber	ZZ-R-765
Brazing alloy	QQ-B-654
Soft solder	QQ-S-571
Bronze (alloy 425)	---

3.3.1 Recycled, virgin and reclaimed materials. Except when intended use of the item will be jeopardized by the use of reclaimed or recycled materials, in preparing new and revising or amending specifications, preparing activities will insure that:

a. There is no exclusion to the use of recovered materials.

b. There is no requirement that an item be manufactured from virgin materials.

c. Within 1 year from the date of issue by the environmental protection agency of guidelines designating items which are or can be produced with recovered materials, specifications for such products require the use of recovered materials to the maximum extent possible.

3.3.2 Metals. Metals shall be of a corrosion-resisting type, or shall be finished to resist corrosion.

3.3.2.1 Dissimilar metals. Dissimilar metals between which an electromotive couple may exist shall not be placed in contact with each other. Refer to MIL-STD-889 for definition of "dissimilar metals".

3.3.3 Spring members. Unless otherwise specified (see 3.1), center contact spring members shall be made of copper beryllium.

3.4 Design and construction. Adapters shall be of the design, construction, and physical dimensions specified herein (see 3.1). The nominal impedance, working voltage, frequency range, and temperature range shall be as specified (see 3.1). When applicable, a visual means for indicating complete mating shall be as specified (see 3.1), or indicated on figures 1 and 2.

3.4.1 Center contact finish. Center contacts shall be gold plated to a minimum thickness of .000050 inch in accordance with MIL-G-45204, type II, grade C, class I. Silver underplating shall not be used.

3.4.2 Screw threads (threaded adapters). Screw threads shall be in accordance with FED-STD-H28, and shall be as specified (see 3.1).

3.4.3 Surface roughness. When applicable, the maximum surface roughness shall be as specified (see 3.1); flaws shall be included in the roughness height measurement (see ANSI B46.1).

3.5 Center contact retention.

3.5.1 Axial force. When adapters are tested as specified in 4.6.2.1, the center contacts shall withstand the axial force specified (see 3.1). The center contact shall meet the mating dimensions (see 3.1).

3.5.2 Torque. When adapters are tested as specified in 4.6.2.2, there shall be no rotation of the center contact.

3.6 Force to engage and disengage.

3.6.1 Bayonet-coupled and threaded adapters. When tested as specified in 4.6.3.1, the longitudinal force (for initiating the engaging) and torque (for completely engaging/disengaging the adapters from their standard mating part) shall not exceed the values specified (see 3.1).

3.6.2 "Push-on" adapters (with or without detents). When tested as specified in 4.6.3.2, the longitudinal force(s) (for completely engaging/disengaging the adapters from their standard mating part) shall not exceed the value(s) specified (see 3.1).

3.7 Coupling proof torque (threaded adapters). When tested as specified in 4.6.4, the coupling mechanism shall not be dislodged from the adapter.

3.8 Mating characteristics. When adapters are tested as specified in 4.6.5, the mating characteristics shall be as specified (see 3.1).

3.9 Permeability (not applicable to hermetic-sealed adapters). When adapters are tested as specified in 4.6.6, the permeability shall be less than 2.0.

3.10 Seal (see 6.3 for definitions).

3.10.1 Hermetic-sealed adapters. When adapters are tested as specified in 4.6.7.1, the leakage rate shall not exceed that specified (see 3.1).

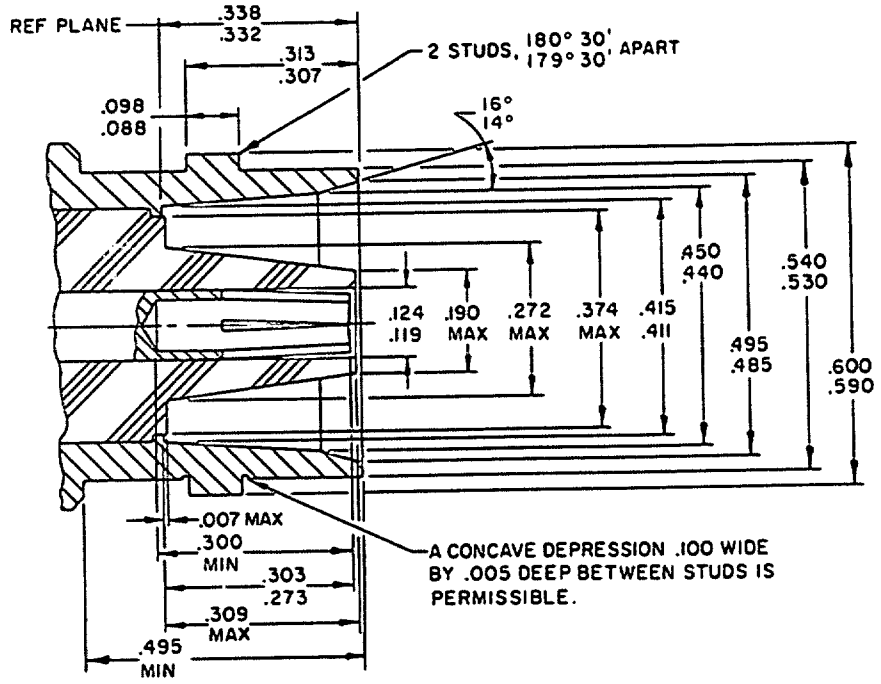
3.10.2 Pressurized and weatherproof adapters. When adapters are tested as specified in 4.6.7.2 or 4.6.7.3, there shall be no leakage as detected by escaping air bubbles.

3.11 Insulation resistance. When adapters are tested as specified in 4.6.8, the insulation resistance shall be not less than that specified (see 3.1).

3.12 Voltage standing wave ratio (VSWR). When adapters are tested as specified in 4.6.9, the VSWR shall not exceed that specified over the frequency range specified (see 3.1).

3.13 RF leakage. When adapters are tested as specified in 4.6.10, the total leakage shall not exceed that specified (see 3.1).

3.14 RF insertion loss. When adapters are tested as specified in 4.6.11, the insertion loss shall not exceed that specified (see 3.1).



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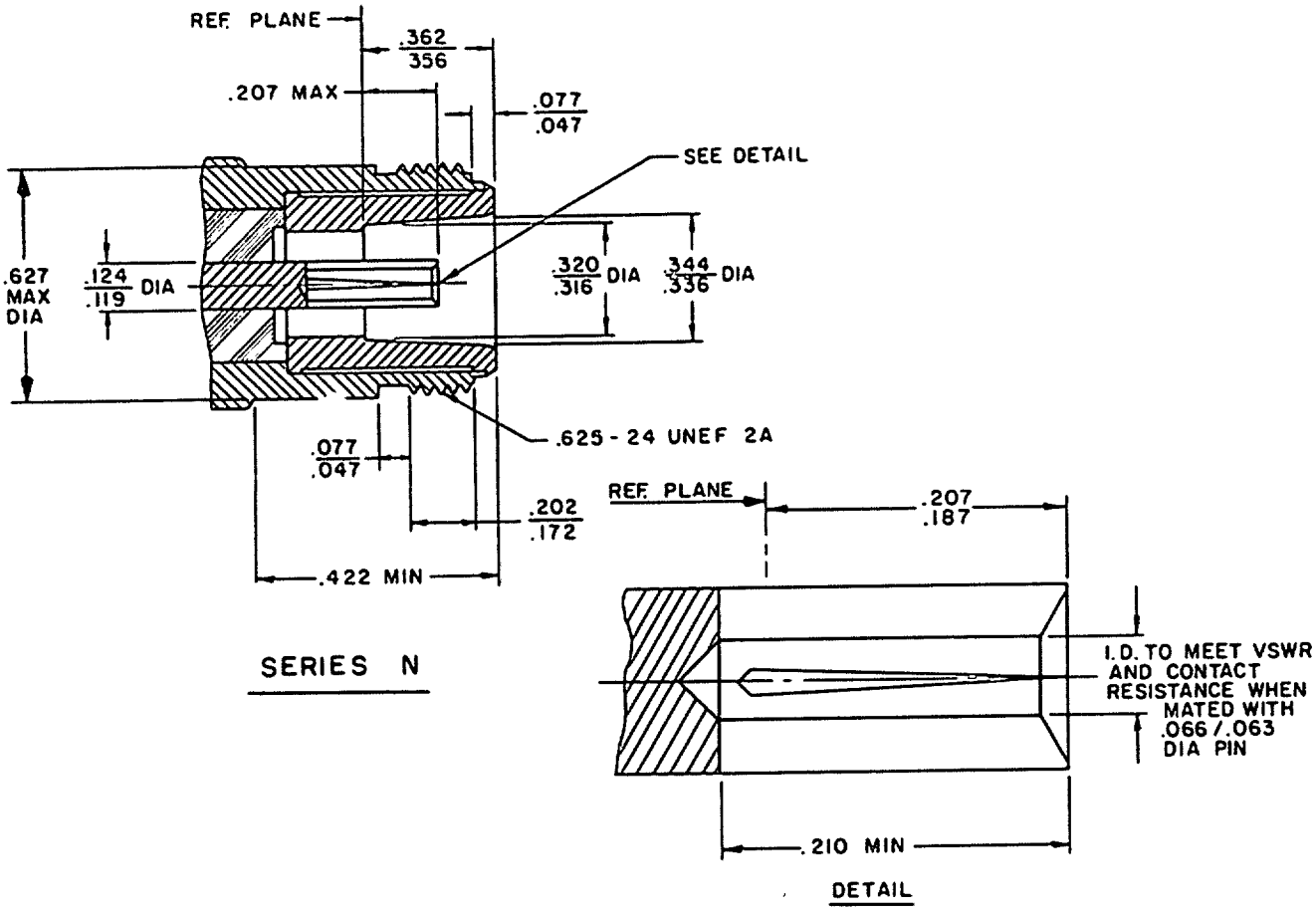
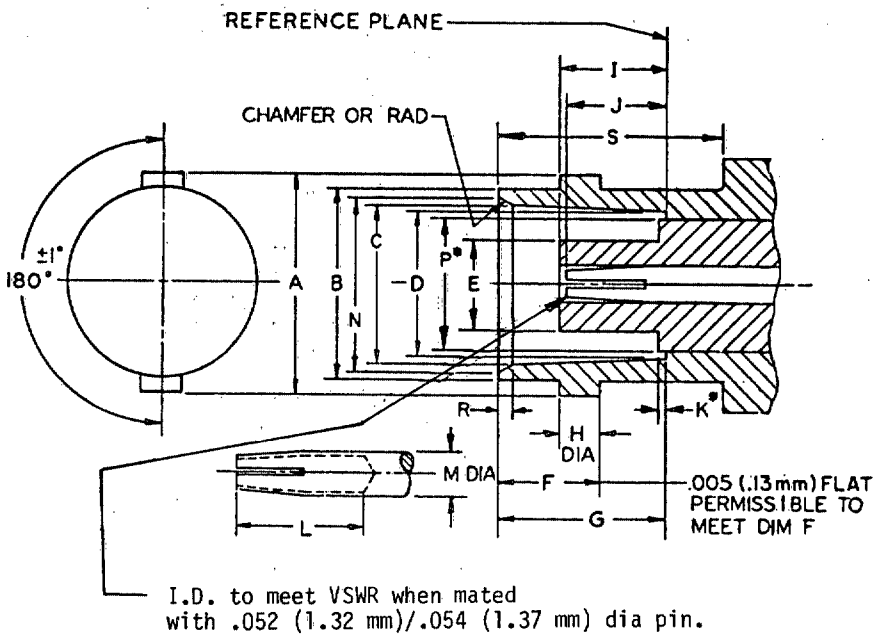


SERIES N

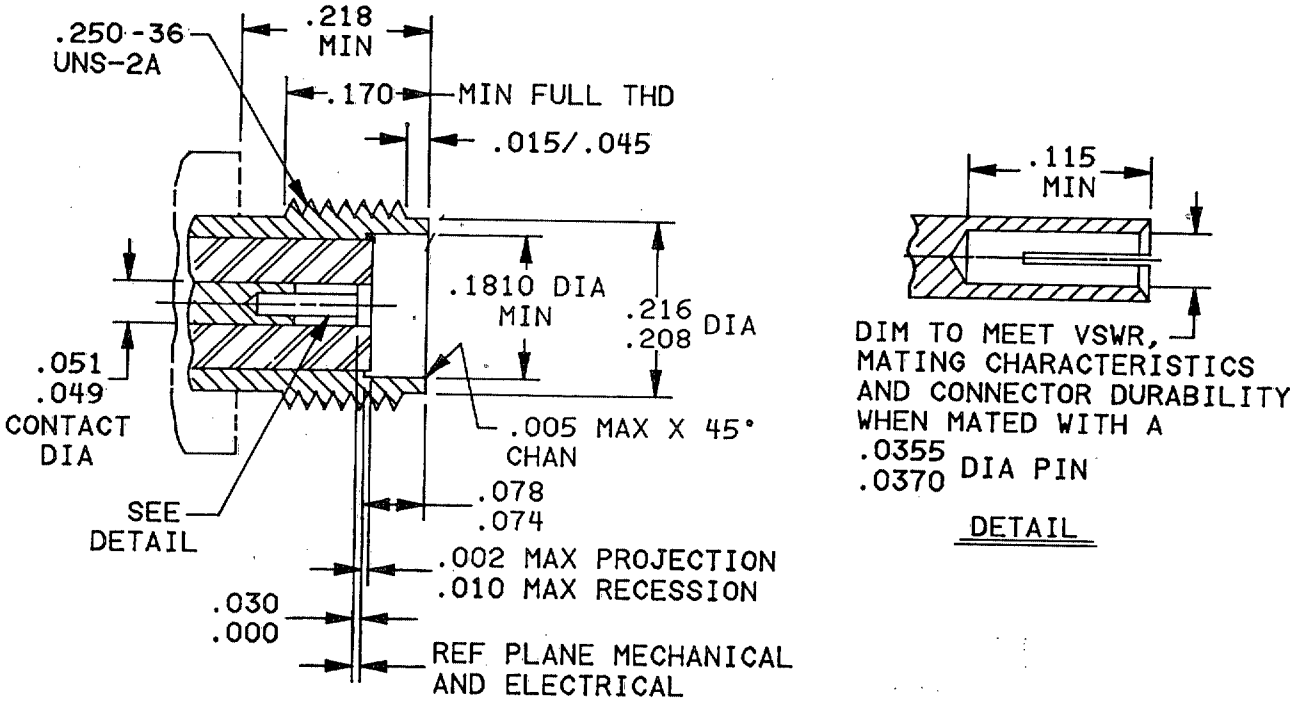
DETAIL

FIGURE 1. Dimensional requirements for female terminations.



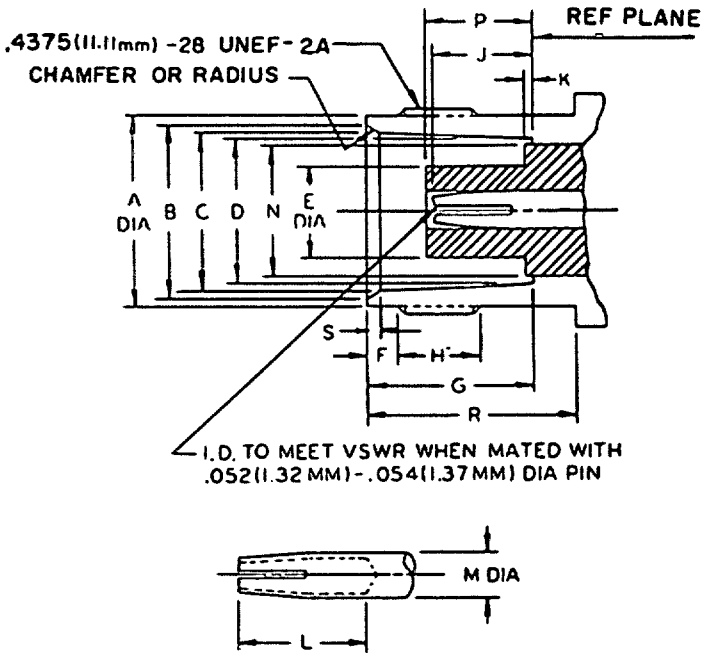
Ltr	Dimensions in inches with metric equivalents (mm) in parentheses	
	Minimum	Maximum
A	.432(10.97)	.436(11.07)
B	.378 (9.60)	.382 (9.70)
C	.327 (8.31)	.333 (8.46)
D	.319 (8.10)	.321 (8.15)
E	- - - -	.186 (4.72)
F	.204 (5.18)	.208 (5.28)
G	.327 (8.31)	.335 (8.51)
H	.075 (1.91)	.081 (2.06)
I	- - - -	.208 (5.28)
J	.190 (4.83)	.206 (5.23)
K*	- - - -	.006 (.15)
L	.195 (4.95)	- - - -
M	.081 (2.06)	.087 (2.21)
N	.346 (8.79)	.356 (9.04)
P*	- - - -	.256 (6.50)
R	.015 (.38)	.030 (.76)
S	.414(10.52)	- - - -

SERIES BNC



SERIES SMA

FIGURE 1. Dimensional requirements for female terminations - Continued.



Ltr	Dimensions in inches with metric equivalents (mm) in parentheses (see note)			
	Minimum		Maximum	
A	.378	(9.60)	.381 (9.68)	
B	.345	(8.76)	.356 (9.04)	
C	.327	(8.31)	.333 (8.46)	
D	.319	(8.10)	.321 (8.15)	
E			.186 (4.72)	
F	.068	(1.73)	.088 (2.24)	
G	.329	(8.36)	.333 (8.46)	
H	.187	(4.75)		
J	.186	(4.72)	.206 (5.23)	
K			.006 (.15)	
L	.195	(4.95)		
M	.081	(2.06)	.087 (2.21)	
N			.256 (6.50)	
P	.188	(4.78)	.208 (5.28)	
R	.415	(10.56)		
S	.015	(.38)	.030 (.76)	

*N dimension applies to that portion (if applicable) of the dielectric which protrudes beyond the metal shoulder (or reference plane) by dimension K.

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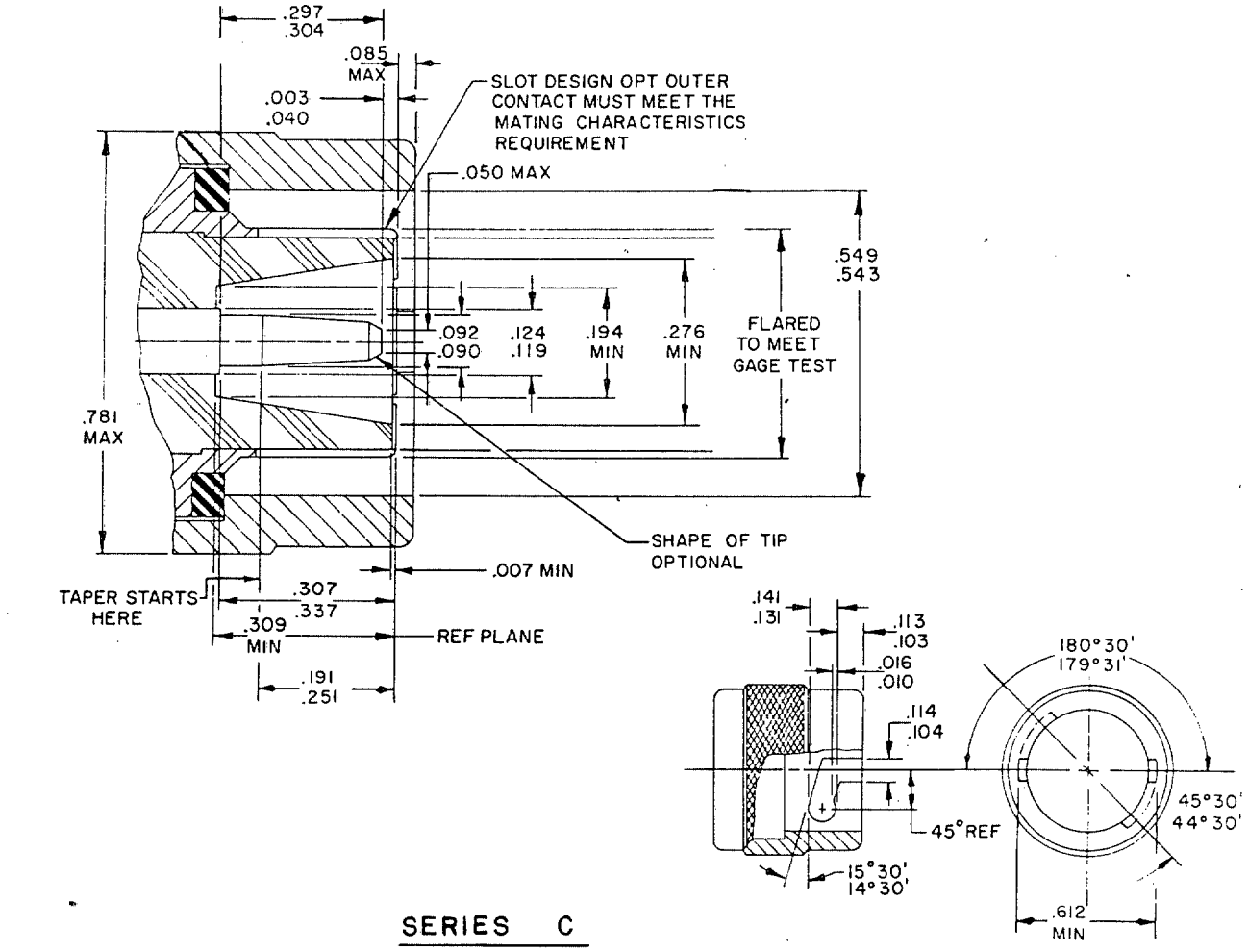
INCHES	MM
.002	.05
.005	.13
.007	.18
.010	.25
.015	.38
.030	.76
.0355	.90
.0370	.94
.045	1.14
.047	1.19
.049	1.24
.051	1.30
.052	1.32
.054	1.37
.063	1.60
.066	1.68
.074	1.88
.077	1.96
.078	1.98
.088	2.24
.098	2.49
.115	2.92
.119	3.02
.124	3.15
.170	4.32
.172	4.37
.181	4.60
.187	4.75
.190	4.83
.202	5.13
.207	5.26
.208	5.28
.210	5.33
.216	5.49
.218	5.54
.250	6.35
.272	6.91
.273	6.93
.300	7.62
.303	7.70
.307	7.80
.309	7.85
.313	7.95
.316	8.03
.320	8.13
.332	8.43
.336	8.53
.338	8.59
.344	8.74
.356	9.04
.362	9.19
.374	9.50
.411	10.44
.415	10.54
.422	10.72
.440	11.18
.450	11.43
.485	12.32
.495	12.57
.530	13.46
.540	13.72
.590	14.99
.600	15.24
.625	15.88
.627	15.93

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm.

FIGURE 1. Dimensional requirements for female terminations - Continued.



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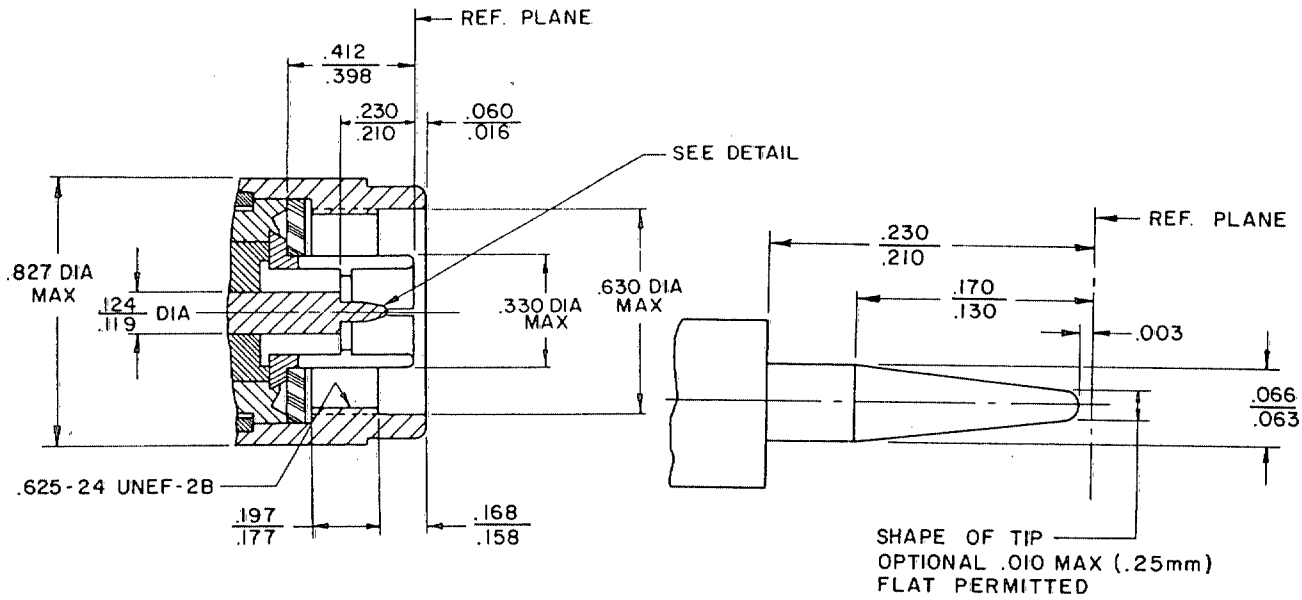
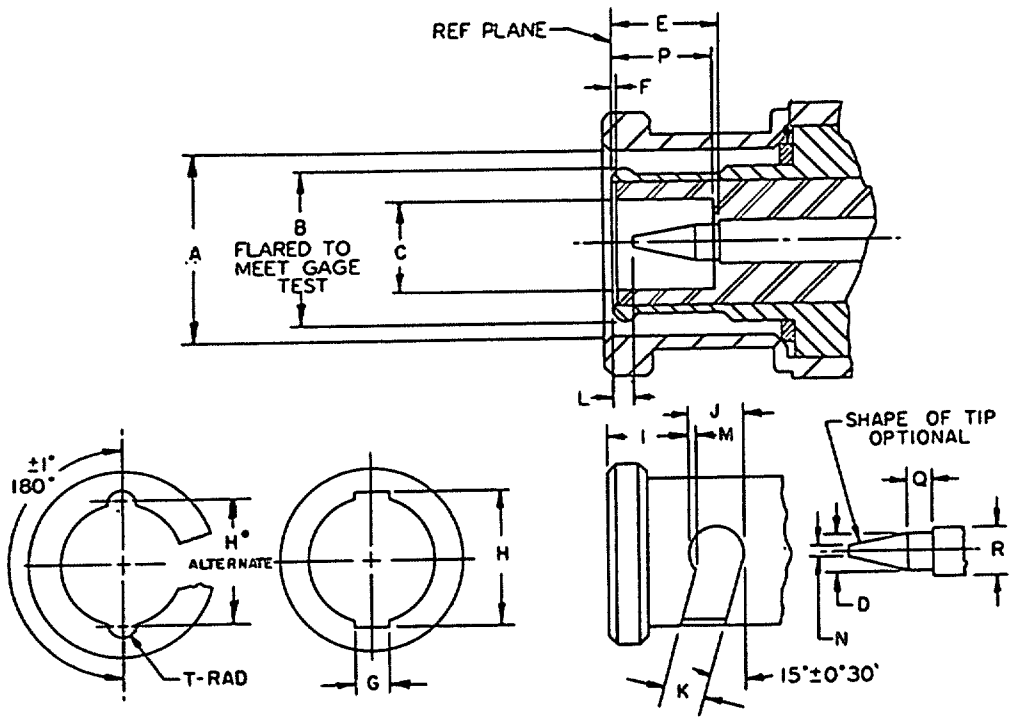


DETAIL

SERIES N

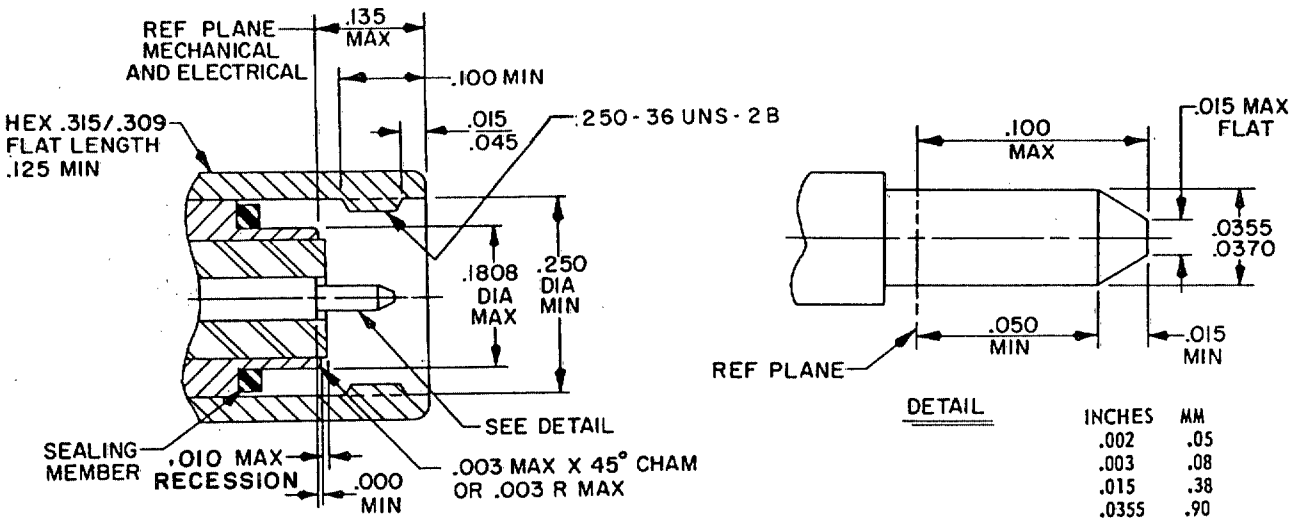
FIGURE 2. Dimensional requirements for male terminations.



Ltr	Dimensions in inches with metric equivalents (mm) in parentheses	
	Minimum	Maximum
A	.385 (9.78)	.390 (9.91)
B	Gage test	
C	.190 (4.83)	
D	.052 (1.32)	.054 (1.37)
E	.210 (5.33)	.230 (5,84)
F	.006 (.15)	
G	.091 (2.31)	.097 (2.46)
H	.463 (11.76)	.473 (12.01)
H*	.394 (10.01)	.400 (10.16)
I	.180 (4.57)	.184 (4.67)
J	.124 (3.15)	
K	.091 (2.31)	.097 (2.46)
L	.003 (.08)	.040 (1.02)
M	.018 (.46)	.022 (.56)
N		.025 (.64)
P	.208 (5.28)	.228 (5.79)
Q	.078 (1.98)	
R	.081 (2.06)	.087 (2.21)
T	.045 (1.14)	.049 (1.24)

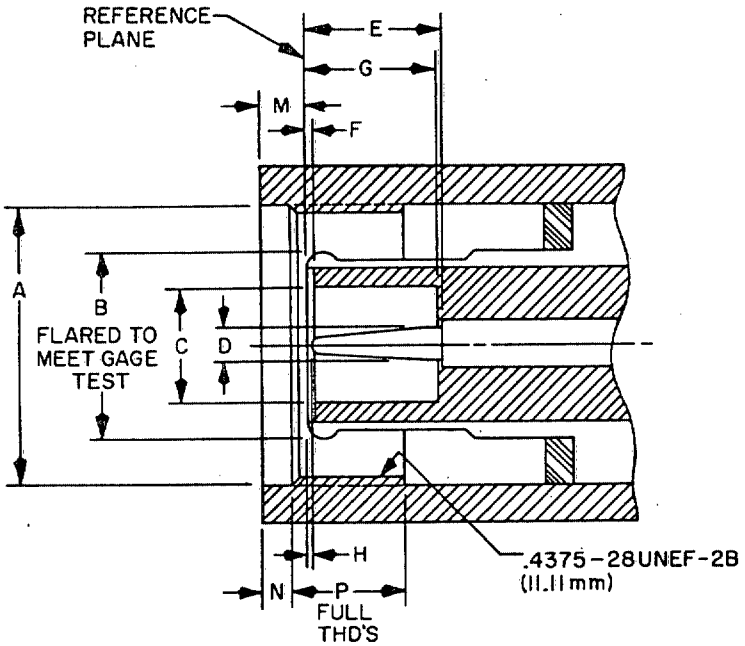
SERIES BNC

FIGURE 2. Dimensional requirements for male terminations - Continued.

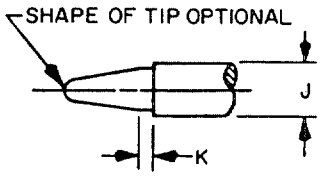


INCHES	MM
.002	.05
.003	.08
.015	.38
.0355	.90
.0370	.94
.045	1.14
.050	1.27
.100	2.54
.125	3.18
.135	3.43
.1808	4.59
.250	6.35
.309	7.85
.315	8.00

SERIES SMA



Ltr	Dimensions in inches with metric equivalents (mm) in parentheses	
	Minimum	Maximum
A	.440 (11.18)	
B	Gage test	
C	.190 (4.83)	
D	.052 (1.32)	.054 (1.37)
E	.210 (5.33)	.230 (5.84)
F	.006 (.15)	
G	.208 (5.28)	.223 (5.79)
H	.003 (.08)	.040 (1.02)
J	.081 (2.06)	.087 (2.21)
K	.078 (1.98)	
M		.078 (1.98)
N	.063 (1.60)	
P	.156 (3.96)	



SERIES TNC

FIGURE 2. Dimensional requirements for male terminations - Continued.

INCHES	MM
.003	.08
.007	.18
.010	.25
.016	.41
.040	1.02
.050	1.27
.060	1.52
.063	1.60
.066	1.68
.085	2.16
.090	2.29
.092	2.34
.103	2.62
.104	2.64
.113	2.87
.114	2.90

INCHES	MM
.119	3.02
.124	3.15
.130	3.30
.131	3.33
.141	3.58
.158	4.01
.168	4.27
.170	4.32
.177	4.50
.191	4.85
.194	4.93
.197	5.00
.210	5.33
.230	5.84
.251	6.38
.276	7.01
.297	7.54

INCHES	MM
.304	7.72
.307	7.80
.309	7.85
.330	8.38
.337	8.56
.398	10.11
.412	10.46
.543	13.79
.549	13.94
.612	15.54
.625	15.88
.630	16.00
.781	19.84
.827	21.01

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm.

FIGURE 2. Dimensional requirements for male terminations - Continued.

3.15 Durability. When adapters are tested as specified in 4.6.12, there shall be no evidence of visual or mechanical damage.

3.16 Dielectric withstanding voltage. When adapters are tested as specified in 4.6.13, there shall be no evidence of breakdown.

3.17 Contact resistance. When adapters are tested as specified in 4.6.14, the contact resistance shall be as specified (see 3.1).

3.18 Vibration, high frequency. When adapters are tested as specified in 4.6.15, there shall be no electrical interruptions exceeding 1 microsecond (µs), unless otherwise specified (see 3.1), and no evidence of visual or mechanical damage.

3.19 Shock (specified pulse). When adapters are tested as specified in 4.6.16, there shall be no electrical interruptions exceeding 1 µs, unless otherwise specified (see 3.1), and no evidence of visual or mechanical damage.

3.20 Thermal shock. When adapters are tested as specified in 4.6.17, there shall be no evidence of visual or mechanical damage.

3.21 Moisture resistance. When adapters are tested as specified in 4.6.18, the insulation resistance shall be not less than that specified (see 3.1), and there shall be no evidence of visual or mechanical damage.

3.22 Corona level. When adapters are tested as specified in 4.6.19, there shall be no evidence of sustained corona discharge.

3.23 RF high potential withstanding voltage. When adapters are tested as specified in 4.6.20, there shall be no breakdown or flashover.

3.24 Salt spray (corrosion). When adapters are tested as specified in 4.6.21, there shall be no exposure of basis metal on the interface or mating surfaces.

3.25 Coupling mechanism retention force (when applicable, see 3.1). When tested as specified in 4.6.22, the coupling mechanism shall not be dislodged from the adapter.

3.26 Marking. Marking of adapters shall conform to method I of MIL-STD-1285, and shall include the military part number (see 1.2.1) and manufacturer's source code; other marking shall be as specified (see 3.1). Whenever practicable, the marking shall be located on the adapter so that it will remain visible after installation.

3.27 Workmanship. Adapters shall be processed in such a manner as to be uniform in quality and shall be free from sharp edges, burrs, and other defects that could affect life, serviceability or appearance.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.1.1 Test equipment and inspection facilities. Test and measuring equipment and inspection facilities of sufficient accuracy, quality and quantity to permit performance of the required inspection shall be established and maintained by the contractor. The establishment and maintenance of a calibration system to control the accuracy of the measuring and test equipment shall be in accordance with MIL-STD-45662.

4.2 Classification of inspections. The inspections specified herein are classified as follows:

a. Qualification inspection (see 4.4).
b. Quality conformance inspection (see 4.5).

4.3 Inspection conditions. Unless otherwise specified herein, all inspections shall be performed in accordance with the test conditions specified in the "GENERAL REQUIREMENTS" of MIL-STD-202.

4.4 Qualification inspection. Qualification inspection shall be performed at a laboratory acceptable to the Government (see 6.4) on sample units produced with equipment and procedures normally used in production.

4.4.1 Sample size. Ten class 1 adapters of the same part number, or six class 2 adapters of the same part number, shall be subjected to qualification inspection.

4.4.2 Inspection routine. The sample shall be subjected to the inspections specified in table II, in the order shown. All sample units shall be subjected to the applicable inspections of group I. The sample shall then be divided equally into two groups of five units each (class 1) or three units each (class 2), and subjected to the inspections for their particular group.

4.4.3 Failures. One or more failures shall be cause for refusal to grant qualification approval.

4.4.4 Retention of qualification. To retain qualification, the contractor shall forward a report to the qualifying activity at 12- or 36-months intervals. The qualifying activity shall establish the initial reporting date. Initial retention of qualification shall be at a 12-month interval. Subsequent retention of qualification shall be at a 36-month interval. The report shall consist of:

a. A summary of the results of the tests performed for inspection of product for delivery, groups A and B, indicating as a minimum the number of lots that have passed, the number that have failed, and the group where they failed. The results of tests of all reworked lots shall be identified and accounted for.
b. A summary of the results of tests performed for periodic inspection, group C, including the number and mode of failures. The summary shall include results of all periodic inspection tests performed and completed during the 12- or 36-month period. If the summary of the test results indicates nonconformance with specification requirements, and corrective action acceptable to the qualifying activity has not been taken, action may be taken to remove the failing product from the qualified products list.

Failure to submit the report within 60 days after the end of each 12- or 36-month period may result in loss of qualification for a product. In addition to the periodic submission of inspection data, the contractor shall immediately notify the qualifying activity at any time during the 12- or 36-month period that the inspection data indicates failure of the qualified product to meet the requirements of this specification.

In the event that no production occured during the reporting period, a report shall be submitted certifying that the company still has the capabilities and facilities necessary to produce the item. If during three consecutive reporting periods there has been no production, the manufacturer may be required, at the discretion of the qualifying activity, to submit a representative product of each group, as defined by 4.4.2 to testing in accordance with the qualification inspection requirements.

4.4.5 Extension of qualification. Manufacturers who have products listed on QPL-39012 and produce adapters of the same series, may apply to the qualifying activity for extension of qualification to this specification, provided the interfacial coupling, materials, and plating of the adapter and connectors are identical, and the adapter successfully meets the requirements of groups I and II of table II.

TABLE II. Qualification inspection.

Inspection	Requirement paragraph	Test method paragraph
Group I		
Visual and dimensional inspection:		
Visual inspection	3.1,3.3,3.4, 3.26 and 3.27	4.6.1.1
Dimensional inspection	3.1	4.6.1.2
Center contact retention	3.5	4.6.2
Force to engage and disengage	3.6	4.6.3
Coupling proof torque (threaded adapters)	3.7	4.6.4
Force to engage and disengage (threaded adapters)	3.6.1	4.6.3.1
Mating characteristics	3.8	4.6.5
Permeability (not applicable to hermetic-sealed adapters)	3.9	4.6.6
Seal	3.10	4.6.7
Insulation resistance	3.11	4.6.8
Group II		
VSWR	3.12	4.6.9
RF leakage	3.13	4.6.10
RF insertion loss	3.14	4.6.11
Durability	3.15	4.6.12
Force to engage and disengage	3.6	4.6.3
Coupling proof torque (threaded adapters)	3.7	4.6.4
Mating characteristics	3.8	4.6.5
VSWR	3.12	4.6.9
Dielectric withstanding voltage	3.16	4.6.13
Group III		
Contact resistance (center and outer contacts)	3.17	4.6.14
Vibration, high frequency	3.18	4.6.15
Contact resistance (center contact)	3.17	4.6.14
Shock (specified pulse)	3.19	4.6.16
Contact resistance (center contact)	3.17	4.6.14
Dielectric withstanding voltage	3.16	4.6.13
Contact resistance (center contact)	3.17	4.6.14
Thermal shock (hermetic-sealed adapters)	3.20	4.6.17
Dielectric withstanding voltage	3.16	4.6.13
Contact resistance (center contact)	3.17	4.6.14
Moisture resistance	3.21	4.6.18
Dielectric withstanding voltage	3.16	4.6.13
Corona level	3.22	4.6.19
Seal	3.10	4.6.7
RF high potential withstanding voltage	3.23	4.6.20
Salt spray (corrosion)	3.24	4.6.21
Force to engage and disengage	3.6	4.6.3
Coupling mechanism retention force (when applicable, see 3.1)	3.25	4.6.22
Force to engage and disengage	3.6	4.6.3

4.5 Quality conformance inspection.

4.5.1 Inspection of product for delivery. Inspection of product for delivery shall consist of groups A and B inspections.

4.5.1.1 Inspection lot. An inspection lot shall consist of all adapters of the same part number produced under essentially the same conditions, and offered for inspection at one time.

4.5.1.2 Group A inspection. Group A inspection shall consist of the inspections specified in table III, in the order shown.

TABLE III. Group A inspection.

Inspection	Requirement paragraph	Test paragraph	AQL (percent defective)	
			Major	Minor
Visual inspection	3.1,3.3,3.4, 3.26, and 3.27	4.6.1.1	0.65	2.5
Dimensional inspection	3.1	4.6 and 4.6.1.2		
Seal	3.10	4.6.7		---
Dielectric withstanding voltage	3.16	4.6.13		

4.5.1.2.1 Sampling plan (group A inspection). Statistical sampling and inspection shall be in accordance with MIL-STD-105 for general inspection level II. The acceptable quality levels (AQL) shall be as specified in table III. Major and minor defects shall be as defined in MIL-STD-105.

4.5.1.2.2 Rejected lots (group A inspection). If an inspection lot is rejected, the contractor may rework it to correct the defects, or screen out the defective units, and resubmit for reinspection. Resubmitted lots shall be inspected using tightened inspection. Such lots shall be separate from new lots, and shall be clearly identified as reinspected lots.

4.5.1.3 Group B inspection. Group B inspection shall consist of the inspections specified in table IV, in the order shown, and shall be made on sample units which have been subjected to and have passed the group A inspection.

TABLE IV. Group B inspection.

Inspection	Requirement paragraph	Test method paragraph	AQL (percent defective)
Center contact retention	3.5	4.6.2	2.5
Force to engage and disengage	3.6	4.6.3	
Coupling proof torque (threaded adapters)	3.7	4.6.4	
Force to engage and disengage (threaded adapters)	3.6.1	4.6.3.1	
Mating characteristics	3.8	4.6.5	
Permeability (not applicable to hermetic-sealed adapters)	3.9	4.6.6	
Insulation resistance	3.11	4.6.8	
VSWR	3.12	4.6.9	
Contact resistance (center and outer contacts)	3.17	4.6.14	

4.5.1.3.1 Sampling plan (group B inspection). The sampling plan shall be in accordance with MIL-STD-105 for special inspection level S-4. The sample size shall be based on the inspection lot size from which the sample was selected for group A inspection.

4.5.1.3.2 Rejected lots (group B inspection). If an inspection lot is rejected, the contractor may rework it to correct the defects, or screen out the defective units, and resubmit for reinspection. Resubmitted lots shall be inspected using tightened inspection. Such lots shall be separate from new lots, and shall be clearly identified as reinspected lots.

4.5.1.3.3 Disposition of sample units. Sample units which have passed all group B inspection may be delivered on the contract or purchase order, if the lot is accepted, and the sample units are still within specified requirements. Any adapter deformed or otherwise damaged during testing shall not be delivered on the contract or order.

4.5.2 Periodic inspection. Periodic inspection shall consist of group C. Except where the results of these inspections show noncompliance with the applicable requirements (see 4.5.2.1.4), delivery of products which have passed groups A and B inspections shall not be delayed pending the results of these periodic inspections.

4.5.2.1 Group C inspection. Group C inspection shall consist of the tests specified in table V, in the order shown. Group C inspection shall be performed on sample units selected from inspection lots which have passed the groups A and B inspections.

TABLE V. Group C inspection.

Inspection	Requirement paragraph	Test method paragraph
Subgroup 1		
VSWR	3.12	4.6.9
RF leakage	3.13	4.6.10
RF insertion loss	3.14	4.6.11
Durability	3.15	4.6.12
Force to engage and disengage	3.6	4.6.3
Coupling proof torque (threaded adapters)	3.7	4.6.4
Mating characteristics	3.8	4.6.5
VSWR	3.12	4.6.9
Dielectric withstanding voltage	3.16	4.6.13
Subgroup 2		
Contact resistance (center and outer contacts)	3.17	4.6.14
Vibration, high frequency	3.18	4.6.15
Contact resistance (center contact)	3.17	4.6.14
Shock (specified pulse)	3.19	4.6.16
Contact resistance (center contact)	3.17	4.6.14
Dielectric withstanding voltage	3.16	4.6.13
Contact resistance (center contact)	3.17	4.6.14
Thermal shock (hermetic-sealed adapters)	3.20	4.6.17
Dielectric withstanding voltage	3.16	4.6.13
Contact resistance (center contact)	3.17	4.6.14
Moisture resistance	3.21	4.6.18
Dielectric withstanding voltage	3.16	4.6.13
Corona level	3.22	4.6.19
Seal	3.10	4.6.7
RF high potential withstanding voltage	3.23	4.6.20
Salt spray (corrosion)	3.24	4.6.21
Force to engage and disengage	3.6	4.6.3
Coupling mechanism retention force	3.25	4.6.22
Force to engage and disengage	3.6	4.6.3

4.5.2.1.1 Sampling plan (group C inspection). Six sample units of the same part number shall be selected from the first lot produced after the date of notification of qualification. Thereafter, six sample units of the same part number shall be selected from current production after 200,000 adapters have been produced, or not less than once every year, whichever occurs first. The sample units shall be divided equally and subjected to the inspections of the two subgroups.

4.5.2.1.2 Failures. If one or more sample units fail to pass group C inspection, the sample shall be considered to have failed.

4.5.2.1.3 Disposition of sample units. Sample units which have been subjected to group C inspection shall not be delivered on the contract or purchase order.

4.5.2.1.4 Noncompliance. If a sample fails to pass group C inspection, the manufacturer shall notify the qualifying activity and the cognizant inspection activity of such failure and take corrective action on the materials or processes, or both, as warranted, and on all units of product which can be corrected and which are manufactured under essestially the same materials and processes, and which are considered subject to the same failure. Acceptance and shipment of the product snall be discontinued until corrective action, acceptable to the qualifying activity has been taken. After the corrective action has been taken group C inspection shall be repeated on additional sample units (all inspections or the inspection which the original sample failed, at the option of the qualifying activity). Group A and B inspections may be reinstituted; however, final acceptance and shipment shall be withheld until the group C inspection has shown that the corrective action was successful. In the event of failure after reinspection, information concerning the failure shall be furnished to the cognizant inspection activity and the qualifying activity.

4.5.3 Inspection of packaging. The sampling and inspection of the preservation, packing, and container marking shall be in accordance with the requirements of MIL-C-55330.

4.6 Methods of inspection. When tests are to be performed on mated threaded adapters, the coupling mechanism shall be torqued to the specified value (see 3.1), prior to testing. Standard test connectors referenced in VSWR, rf leakage, and rf insertion loss tests are as specified in the Appendix of MIL-C-39012.

4.6.1 Visual and dimensional inspection.

4.6.1.1 Visual inspection. The adapter shall be examined to verify that the design, construction, marking, and workmanship are in accordance with the applicable requirements (see 3.1, 3.3, 3.4, 3.27, and 3.28).

4.6.1.2 Dimensional inspection. Dimensions (see 3.1) shall be measured using any suitable method.

4.6.2 Center contact retention.

4.6.2.1 Axial force (see 3.5.1). The axial force specified (see 3.1) shall be applied to the center contact of an unmated adapter. This force shall be applied at a rate of approximately 1 pound (4.448 N) per second until the specified force has been reached. The force shall be applied for a minimum period of 5 seconds. After removal of specified force, the axial location of the center contact at each end shall be determined. Each mating end of the adapter shall be tested.

4.6.2.2 Torque (see 3.5.2). The torque specified (see 3.1) shall be applied to the center contact of an unmated adapter for a minimum period of 10 seconds. Each mating end of the adapter shall be tested.

4.6.3 Force to engage and disengage. As used herein, the "standard mating part" shall be a steel jig containing the critical interface dimensions specified (see 3.1). When applicable, its spring member shall be heat-treated copper-beryllium; the surface texture shall be 16 microinches (406.4nm) maximum, per ANSI B46.1.

4.6.3.1 Bayonet-coupled and threaded adapters (see 3.6.1). A longitudinal force shall be applied to initiate the engaging cycle. A torque shall then be applied to the coupling mechanism so that the adapter will (1) completely engage with its standard mating part, and (2) completely disengage from its standard mating part. The force and torque(s) shall be measured.

NOTE: A bayonet-coupled adapter is completely engaged with its standard mating part when the bayonet studs have passed the detent and their reference planes coincide; a threaded adapter is completely engaged with its standard mating part when their reference planes coincide.

4.6.3.2 "Push-on" adapters (with or without detents) (see 3.6.2). A longitudinal force shall be applied to engage the adapter with its test gage, or standard mating part if a gage is not specified. An opposite force shall then be applied for disengaging. The force(s) shall be measured (measurements shall include any latching/unlatching forces required).

4.6.4 Coupling proof torque (threaded adapters) (see 3.7). The adapter shall be mated with its standard mating part and the coupling nut tightened to the torque specified (see 3.1). After 1 minute, the adapter shall be disengaged from its standard mating part.

4.6.5 Mating characteristics (see 3.8). The adapter shall be rigidly mounted in a suitable jig or fixture and the applicable mating characteristics specified in table VI shall be measured. For measurements of required forces, a dial-indicating gage (containing the test pin or ring) shall be alined to within 0.004 (.10 mm) TIR of any plane passing through the axis of the contact. Insertion or withdrawal of the test pin (or ring) shall be made smoothly and at such a rate that the gage does not give a false reading. (NOTE: To facilitate insertion, the test pin (or ring) may be chamfered; however, the insertion depth specified (see 3.1) does not include the chamfer.)

TABLE VI. Mating characteristics.

Contact to be tested (see 3.1)	Test pins or rings 1/	Mating characteristics 2/
Center	Oversize test pin Max diameter test pin Min diameter test pin	No measurements required. Insertion force shall be measured. Withdrawal force shall be measured.
Outer	Min size test ring Max size test ring (contact with slotted member only)	Insertion force shall be measured. Slotted member shall contact ring within dimension specified (see 3.1).

1/ Mating dimensions shall be as specified (see 3.1).
2/ When applicable, the number and depth of insertions shall be as specified (see 3.1).

4.6.6 Permeability (not applicable to hermetic-sealed adapters) (see 3.9). The permeability of the adapter shall be measured with an indicator conforming to MIL-I-17214.

4.6.7 Seal (see 3.10).

4.6.7.1 Hermetic-sealed adapters (see 3.10.1). The unmated adapter shall be tested in accordance with method 112 of MIL-STD-202. The following details and exception shall apply:

a. Method of mounting - In its normal manner in specified mounting hole (see 3.1).
b. Test-condition letter - C.
c. Procedure number - I.
d. Leakage rate sensitivity - 10^{8} cubic centimeters per second.

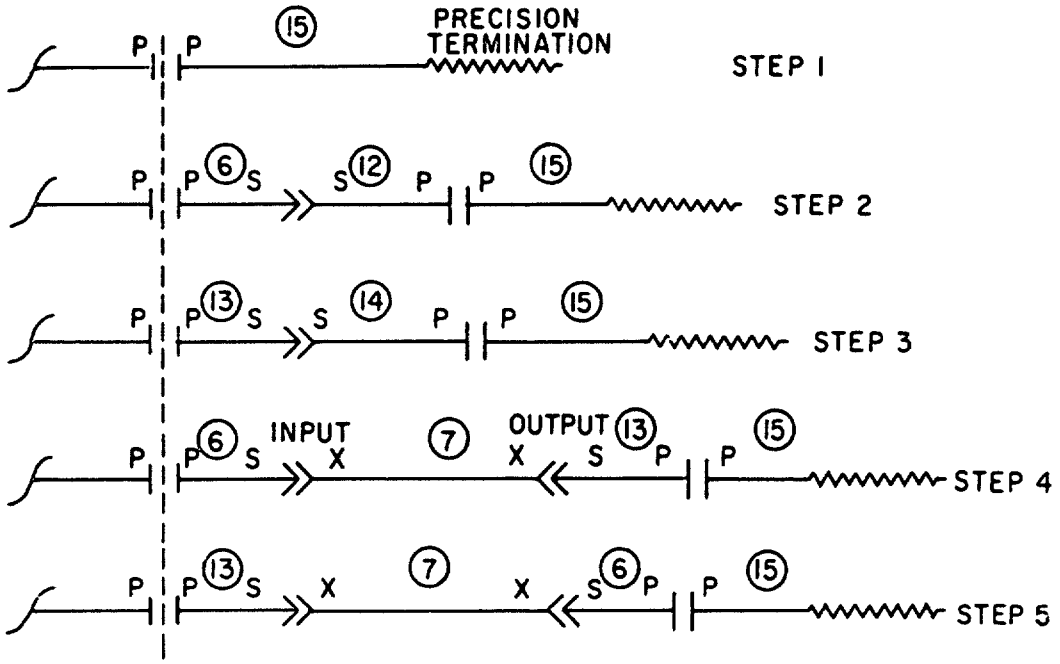
4.6.7.2 Pressurized adapters (see 3.10.2). The unmated adapter shall be mounted in its normal manner in the specified mounting hole (see 3.1) on a closed container. The specified air pressure (see 3.1) shall be applied to the interior of the container. The exposed portion of the adapter under pressure shall be fully immersed in water or alcohol-water mixture and observed for 1 minute minimum.

4.6.7.3 Weatherproof adapters (see 3.10.2). The adapter shall be mounted in its normal manner in the specified mounting hole (see 3.1) on a closed container with the mating end capped. The specified air pressure (see 3.1) shall be applied to the interior of the container. The exposed portion of the adapter under pressure shall be fully immersed in water or alcohol-water mixture and observed for 30 seconds minimum.

4.6.8 Insulation resistance (see 3.11). The adapter shall be tested in accordance with method 302 of MIL-STD-202. The following details shall apply:

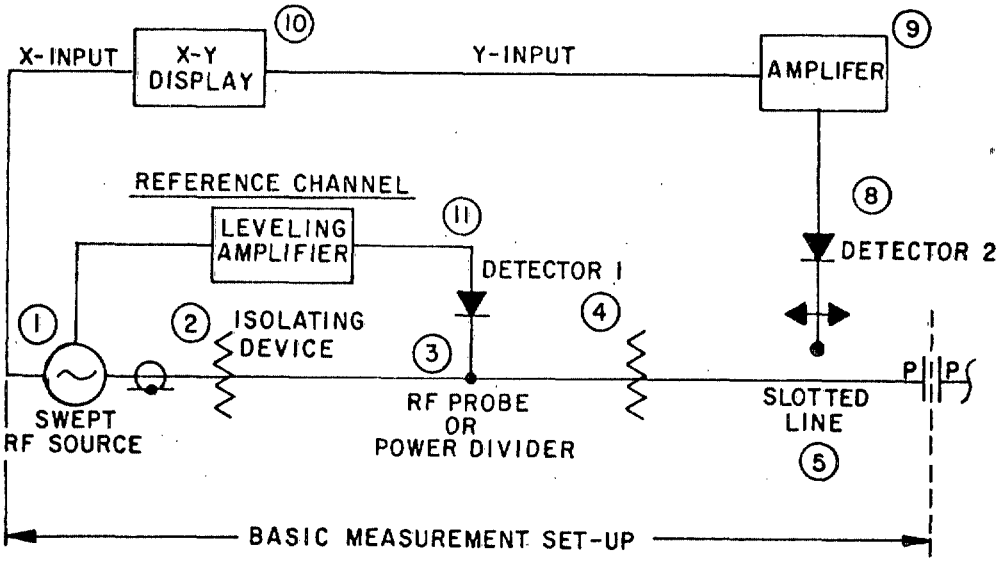
a. Test-condition letter - B.
b. Points of measurement - Between the center contact and body.

4.6.9 Voltage standing wave ratio (VSWR) (see 3.12). The VSWR shall be measured in accordance with the following procedure or a method acceptable to the Government. In the event of dispute the method outlined herein shall be used. Diagrams for the swept frequency VSWR system check out and measurement procedures are shown on figure 3.



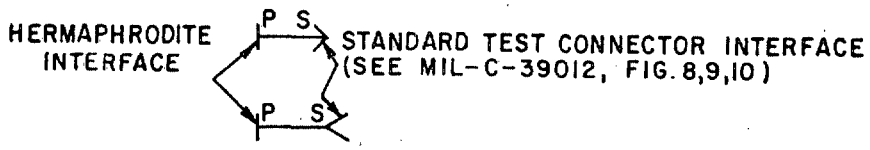
1. Swept RF source.
2. Isolating device.
3. RF probe or power divider.
4. Isolating device.
5. Slotted line with precision hermaphroditic output connector. Residual VSWR less than 1.006 +.003F (F in GHz).
6. Standard precision adapter having standard test connector interface (see MIL-C-39012, Fig. 8, 9, 10) compatible with input connector interface of adapter under test.
7. Adapter under test.
8. Detector No. 2.
9. Amplifier.
10. X-Y display.
11. Detector No. 1.
12. Standard precision adapter having standard test connector interface compatible with 6.
13. Standard precision adapter having standard test connector interface compatible with output connector interface of adapter under test.
14. Standard precision adapter having standard test connector interface compatible with 13.
15. Precision hermaphroditic termination, VSWR less than 1.009 +.002F(F in GHz).

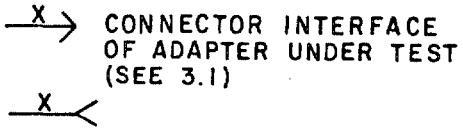
FIGURE 3. Swept frequency VSWR test.



P P PRECISION HERMAPHRODITIC CONNECTORS

STANDARD PRECISION ADAPTERS





LEGEND

FIGURE 3. Swept frequency VSWR test - Continued.

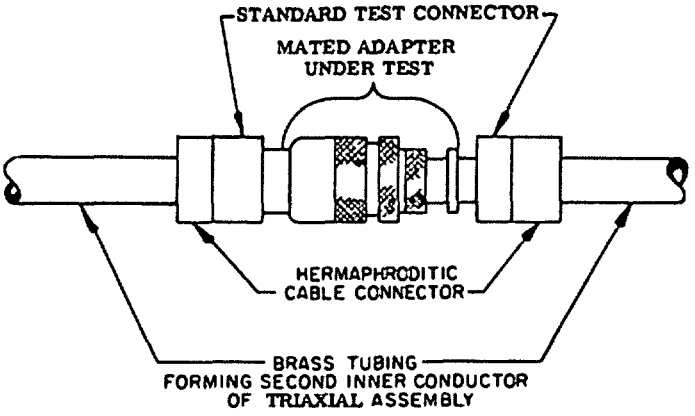


FIGURE 4A. Typical test assembly for rf leakage.

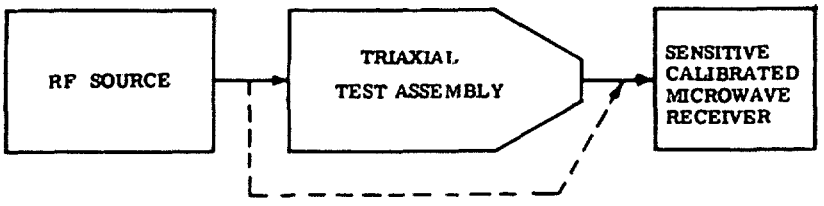


FIGURE 4B. Typical test set-up for rf leakage.

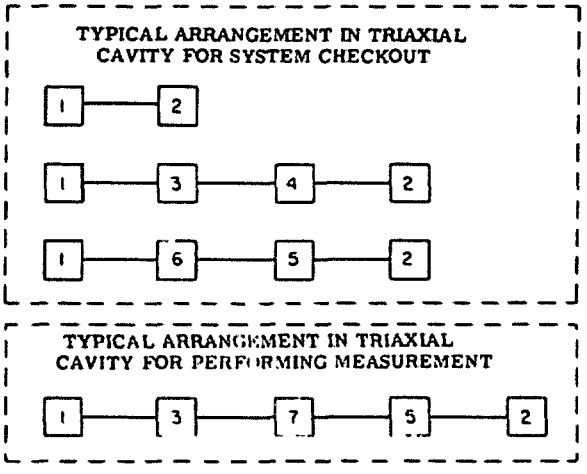
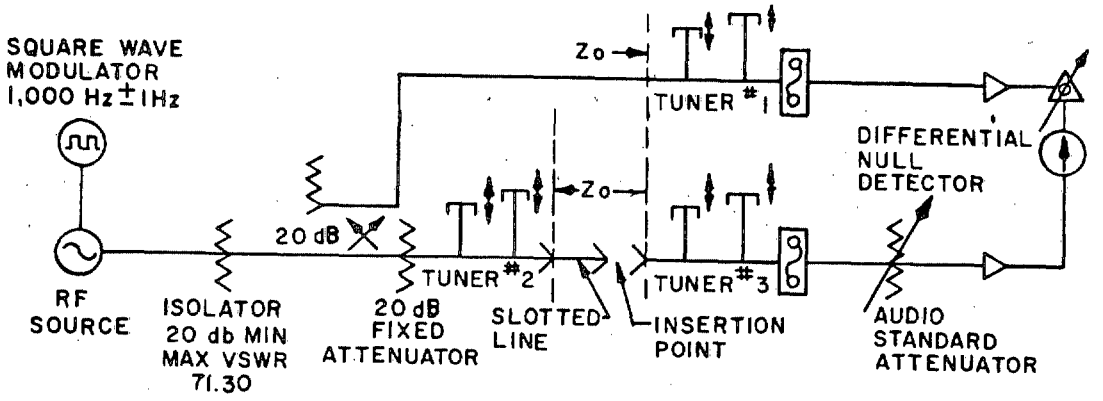


FIGURE 4C. Typical arrangements in triaxial cavity.

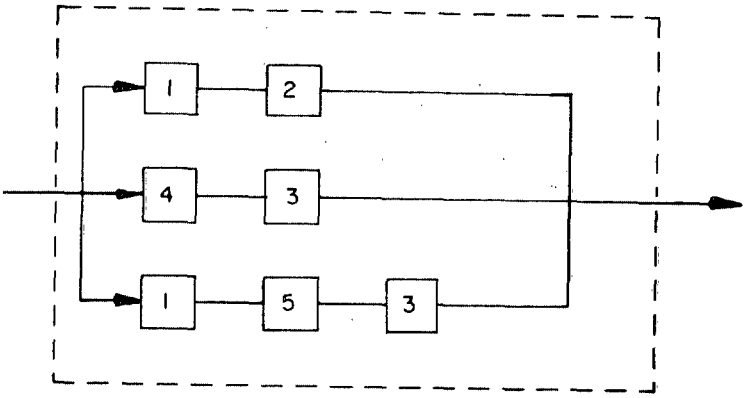
ITEM

1. Cable connector with hermaphroditic output fitting.
2. Cable connector with hermaphroditic input fitting compatible with output fitting of item 1.
3. Standard test connector with hermaphroditic input fitting compatible with output fitting of item 1, and output interface compatible with input interface of adapter to be tested.
4. Standard test connector of opposite sex to item 3, and hermaphroditic output fitting compatible with input fitting of item 2.
5. Standard test connector with hermaphroditic output fitting compatible with input fitting of item 2, and input interface compatible with output interface of adapter to be tested.
6. Standard test connector of opposite sex to item 5 and hermaphroditic input fitting compatible with output fitting of item 1.
7. Adapter under test.

FIGURE 4. Method of rf leakage measurements.



NOTE: Slotted line with low residual reflection, hermaphroditic output fitting compatible with tuner #3 input fitting. VSWR less than 1.006 + .003F (F in GHz).



ITEM

1. Standard test connector with hermaphroditic input fitting compatible with output fitting of slotted line, and output interface compatible with input interface of adapter to be tested
2. Standard test connector of opposite sex to item 1 and hermaphroditic output fitting compatible with input fitting of tuner #3.
3. Standard test connector with hermaphroditic output fitting compatible with input fitting of tuner #3, and input interface compatible with output interface of adapter to be tested.
4. Standard test connector of opposite sex to item 3 and hermaphroditic input fitting compatible with output fitting of the slotted line.
5. Adapter under test.

NOTE: Slotted line with low residual reflection, hermaphroditic output fitting compatible with tuner #3 input fitting. VSWR less than 1.006 + .003F (F in GHz).

FIGURE 5. Method of insertion loss measurement.

In the basic measurement setup of figure 3 detector 1 provides a feedback signal to the swept RF source in order to normalize the output signal of detector 2. The frequency-amplitude characteristics of detectors 1 and 2 should be matched within 0.5 dB.

To measure VSWR several sweeps are made with the slotted line probe incrementally positioned over at least a half wave length at the lowest frequency of interest. In this manner an X-Y display is generated whose upper and lower envelope limits represent maximum and minimum amplitudes of the standing wave for each frequency in the test band. A base line may be generated by making a sweep with no input to the measurement channel amplifier. The resultant X-Y display is calibrated according to the characteristics of the measurement channel detector and amplifier, e.g., linear, square law, logarithmic, etc. VSWR shall be measured with each end of the adapter under test as input.

The VSWR test system is checked out by successively terminating the slotted line with the elements shown in steps 1, 2 and 3 and sweeping the frequency over the specified test band (see 3.1). In step 1 the system VSWR shall be less than 1.02 +.004 F (F measured in GHz). In steps 2 and 3 the system VSWR shall be as specified (see 3.1).

The standard precision adapter interface shall conform to IEEE Standard 287. Items 6, 12, 13 and 14 (standard precision adapters) shall not exceed the specified VSWR requirements (see 3.1). Standard test adapter designs shall be approved by the military qualifying agency.

4.6.10 RF leakage (see 3.13). The adapter to be tested shall be assembled as shown on figure 4A, and tested as shown on figure 4B. The brass tubing shall be machined to attach to the hermaphroditic cable connectors. This test set-up at the specified frequency (see 3.1) shall have a dynamic range from -20 dBm to better than -100 dBm, or a difference of 90 dB. Using a 20 dBm rf source with 10 dB isolation, an additional 30 dB range will be obtained by use of attenuator pads or a step attenuator producing a total range of 120 dB. The shorting plunger is adjusted to produce a maximum reading in the detector with the triaxial assembly inserted. To check the residual rf leakage of the standard test connectors, the following three-step checkout procedure shall be performed:

Step 1 - Items 1 and 2 of figure 4C shall be inserted in the triaxial assembly. The rf leakage at the frequency of interest of this combination shall be measured.

Step 2 - Items 1, 3, 4, and 2 shall be inserted in the triaxial assembly as shown on figure 4C, and rf leakage shall be measured.

Step 3 - Items 1, 6, 5, and 2 shall be inserted in the triaxial assembly, and the rf leakage shall be measured.

To perform the measurement on the adapter under test, items 1, 3, 7, 5, and 2 of figure 4C shall be inserted in the triaxial assembly and the total rf leakage of the adapter at both its interfaces shall be measured.

4.6.11 RF insertion loss (see 3.14). The adapter shall be tested as shown on figure 5. Included in the insertion loss of the adapter is the reflection and dissipating loss of two standard test connectors - on for each interface of the adapter under test. Before performing the measurement on the adapter under test, the following two-step checkout procedure shall be performed:

Step 1 - The insertion loss of items 1 and 2 of figure 5 shall be measured.

Step 2 - The insertion loss of items 4 and 3 shall be measured.

To perform the measurement on the adapter under test, items 1, 5, and 3 shall be inserted as shown, and the insertion loss shall be measured.

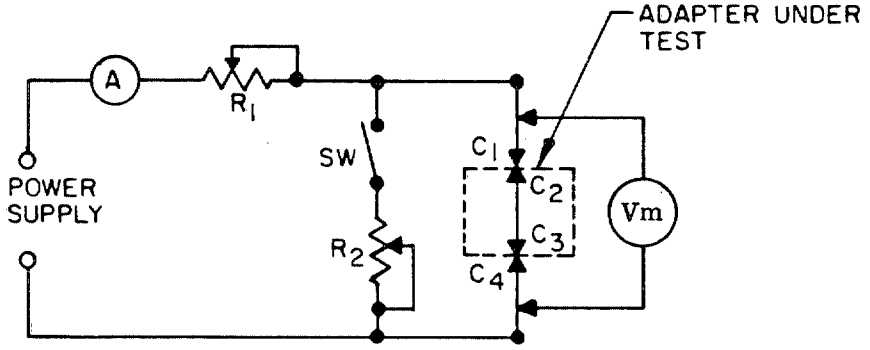
4.6.12 Durability (see 3.15). The adapter shall be mated with a production connector per MIL-C-39012 or a production adapter per this specification. Each mating end of the adapter shall be subjected to the number of mating and unmating cycles specified (see 3.1). The rate shall be as specified (see 3.1). The adapter and its mating part shall be completely mated, and completely unmated during each cycle. Threaded or rotating parts shall not be lubricated for this test. It is permissible to shake or blow debris from threads and interfacial surfaces at intervals of not less than 50 cycles. Solvents or special tools shall not be used for cleaning.

4.6.13 Dielectric withstanding voltage (see 3.16). The adapter shall be tested in accordance with method 301 of MIL-STD-202. The following details shall apply:

a. Magnitude of test voltage - As specified (see 3.1) (the voltage shall be instantaneously applied and shall be metered on the high side of the transformer).
b. Nature of potential - AC.
c. Points of application of test voltage - Between the center contact and body.

4.6.14 Contact resistance (see 3.17). The contact resistance of the mated outer contacts and the contact resistance of the mated inner contacts shall be measured, as applicable, as specified herein. The coupling mechanism shall be removed when measuring contact resistance of the outer contacts. The test set-up shall be as shown on figure 6. The test shall be performed as follows:

a. Remove contacts C_2 - C_3 from the measuring circuit.
b. Close switch (Sw).
c. Adjust resistor (R_2) for a voltmeter (Vm) reading of 50 millivolts.
d. Connect contacts C_2 - C_3 to the measuring circuit.
e. Check to see that the voltage drops significantly prior to opening switch in (f).
f. Open switch (Sw).
g. Adjust resistor (R_1) for a circuit current of 1 ampere.
h. Measure the voltage drop across contacts C_1 - C_4 and call this "e".
i. Compute contact resistance as follows:
Contact resistance (milliohms) = e (in millivolts) 1 ampere.



A - Ammeter (0-1 amp)
R_1 - Variable resistor (0-15 ohms)
Sw - Switch (contact resistance < .01 ohm)
R_2 - Variable resistor (0-0.1 ohm)
Vm - Voltmeter
Power supply - DC 10 volts @ 1 amp

FIGURE 6. Diagram for contact resistance.

4.6.15 Vibration, high frequency (see 3.18). The mated adapter shall be tested in accordance with method 204 of MIL-STD-202. The following details and exception shall apply: Contacts may be connected in series.

a. Mating connector - Cabled connector per MIL-C-39012.
b. Mounting of specimens - The adapter shall be mounted by its normal mounting device and engaged by its normal coupling mechanism; safety wire shall not be used. Adapters having no provisions for mounting may be held to the jig (see figure 7) by a suitable clamp.
c. Electrical load - At least 100 milliamperes shall be flowing through each set of contacts.
d. Test-condition letter - B.
e. Measurements - During vibration, continuity of the center and outer contacts shall be monitored with a detector capable of detecting interruptions of 1 µs or greater duration.

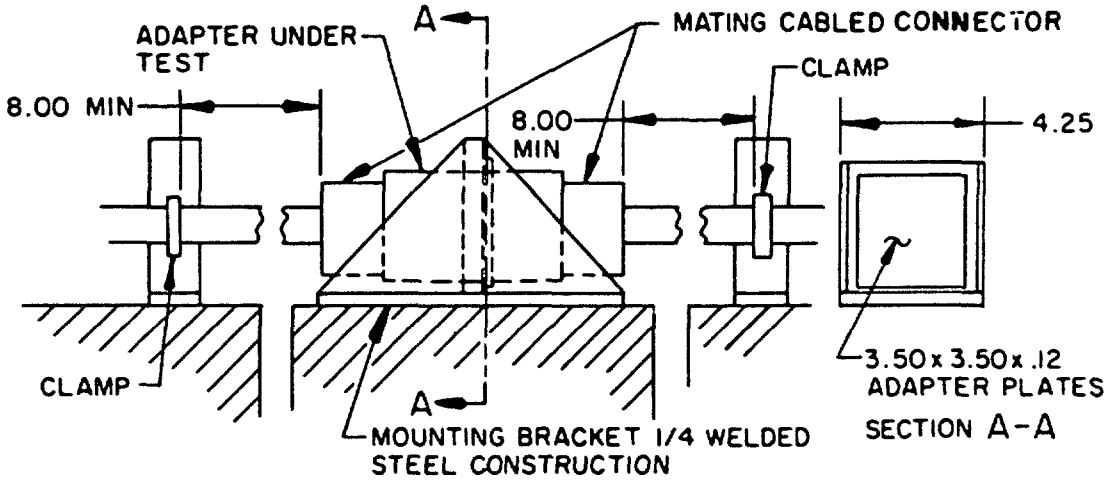


FIGURE 7. Vibration testing set-up.

4.6.16 Shock (specified pulse) (see 3.19). The adapter shall be in accordance with method 213 of MIL-STD-202. The following details and exceptions shall apply:

a. Mating connector - Cabled connector per MIL-C-39012.
b. Mounting - Panel or bulkhead mounted adapters shall be mounted by normal means. All other adapters shall be rigidly clamped to the shock table.
c. Test-condition letter - As specified (see 3.1). Three shocks in each of three mutually perpendicular planes shall be applied; one of which shall be parallel to the axis of the adapter.
d. Measurements during shock - Continuity shall be monitored with a detector capable of detecting interruptions of 1 µs or greater duration.

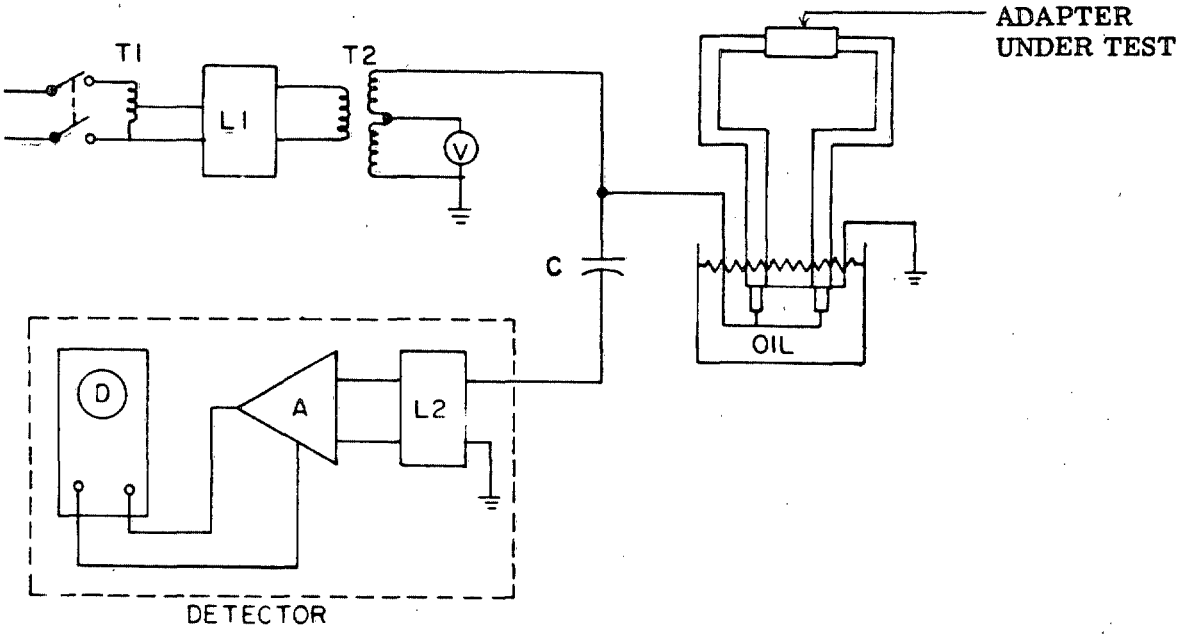
4.6.17 Thermal shock (see 3.20). The adapter shall be tested in accordance with method 107 of MIL-STD-202. The following details shall apply:

a. Test-condition letter as specified (see 3.1).
b. Measurements before and after cycling - Not applicable.

4.6.18 Moisture resistance (see 3.21). The adapter shall be tested in accordance with method 106 of MIL-STD-202. The following details and exceptions shall apply:

a. Mating connector - Cabled connector per MIL-C-39012.
b. Initial measurements - Not applicable.
c. Loading voltage - Not applicable.
d. Number of cycles - 10 continuous cycles except step 7b (vibration) shall be omitted.
e. Final measurements - After the final cycle and within 5 minutes after removal from high humidity, insulation resistance shall be measured as specified in 4.6.8.

4.6.19 Corona level (see 3.22). The adapter shall be mated to a cabled connector per MIL-C-39012 and arranged in a suitable test circuit as shown on figure 8, or equivalent. Components of the test circuit shall be corona free to the extent that a discharge of 5 picocoulombs or less can be measured when the 60-Hz test potential is increased to the value specified at the altitude specified (see 3.1). The type of cable and length of cable used shall be as specified (see 3.1). No grease or similar compounds shall be used in or on the test item. After the sample is purged of air, the 60-Hz voltage shall be slowly increased until the detector, operated at a sensitivity of 5 picocoulombs, indicates a sustained corona discharge. The voltage shall then be decreased until corona is at the 5 picocoulombs level or less. The latter voltage is the corona level of the adapter under test. The contractor may, at his own option, use a corona detector (which has been approved by the Government) for performing the test in lieu of the test set-up of figure 8.



C – Corona free coupling capacitor (note 1)
D – Discharge display
L1 – Input line filter (note 2)
L2 – 10 - 50 KHz detector input filter
A – Detector amplifier
T1 – 0 - 130 V variable transformer
T2 – High voltage transformer (Corona free - less than 5 picocoulombs)
V – Voltmeter

NOTES:
1. Equal to or greater than total circuit capacitance.
2. 100 dB - 14 KHz to 10 GHz.

FIGURE 8. Equipment and schematic for measuring corona level.

4.6.20 RF high potential withstanding voltage (see 3.23). The adapter shall be mated to a cabled connector per MIL-C-39012 (the cable shall be approximately 2 inches long). This assembly shall then be inserted into the high impedance circuit as shown on figure 9, or equivalent, and instantaneously subjected to the rf voltage and frequency specified (see 3.1) between the center contact and body of the adapters. The duration of the test shall be 1 minute. The rf voltage source shall be frequency stabilized and shall have an approximate pure sine wave output with minimum harmonic content. Means shall be provided to indicate disruptive discharge.

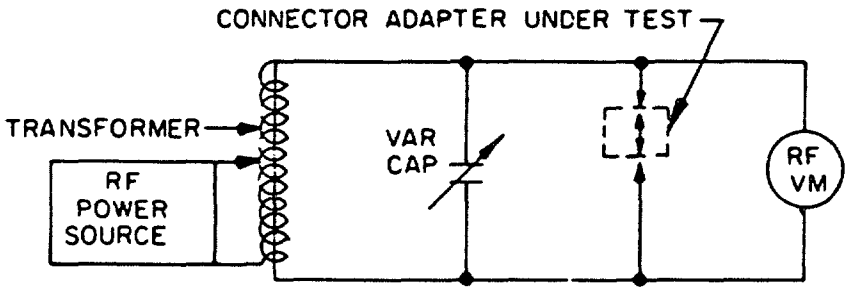


FIGURE 9. Circuit diagram for rf high potential withstanding voltage.

4.6.21 Salt spray (corrosion) (see 3.24). The adapter shall be tested in accordance with method 101 of MIL-STD-202. The following details and exception shall apply:

a. Salt solution - 5 percent.
b. Test-condition letter - B.
c. Examination after exposure - Adapters shall be washed, shaken, and lightly brushed and then permitted to dry for 24 hours at 40°C. Adapters shall then be examined for evidence of corrosion or pitting, and ease of coupling.

4.6.22 Coupling mechanism retention force (when applicable, see 3.1) (see 3.25). The adapter shall be subjected to an axial force which tends to separate the coupling mechanism from the body. A tensile load shall be gradually applied up to the force specified (see 3.1), and held at that value for 1 minute. During the 1 minute of steadily applied force, the coupling mechanism shall be rotated with respect to the adapter body, two full revolutions in each direction.

5. PACKAGING

5.1 Packaging requirements. The requirements for packaging shall be in accordance with MIL-C-55330.

6. NOTES

6.1 Intended use. The connectors covered by this specification are intended for use in rf applications up to the frequency specified (see 3.1).

6.2 Ordering data. Aquisition documents should specify the following:

a. Title, number, and date of this specification.
b. Title, number, and date of the applicable specification sheet.
c. The complete part number of the adapter ordered.

6.3 Definitions.

6.3.1 Hermetic-sealed adapter. An adapter which is intended to mount on a surface and provide a specific maximum leak rate both internally through the adapter, and externally at the mounting surface.

6.3.2 Pressurized adapter. An adapter which is intended to mount on a surface and provide seals, both internally through the adapter, and externally at the mounting surface. The sealing requirement may be less severe than for the hermetic-sealed adapter.

6.3.3 Weatherproof adapter. An adapter which is intended to mount on a surface and provide a seal to that surface.

6.3.4 Jack. Adapter end without coupling nut.

6.3.5 Plug. Adapter end with coupling nut.

6.4 Qualification. With respect to products requiring qualification awards will be made only for products which are at the time set for opening of bids, qualified for inclusion in the applicable qualified products list whether or not such products have actually been so listed by that date. The attention of the contractors is called to this requirement, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification, in order that they may be eligible to be awarded contracts or orders for the products covered by this specification. The activity responsible for the qualified products list is the US Army Communications-Electronic Command, Department of the Army, Fort Monmouth, New Jersey 07703; however, information pertaining to qualification of products may be obtained from the Defense Electronics Supply Center (DESC-E), Dayton, Ohio 45444.

6.4.1 Application for qualification. Application for qualification testing shall be made in accordance with "Provisions Governing Qualification (SD-6)" which may be obtained upon application to Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120.

6.5 Changes from previous issue. Asterisks are not used in this revision to identify changes with respect to the previous issue, due to the extensiveness of the changes.

Custodians:
Army - CR
Navy - EC
Air Force - 85

Review activities:
Army - MI
Navy - SH, OS
Air Force - 11, 99
DLA - ES

User activities:
Army - AR, AT
Navy - AS, MC
Air Force - 19

Agent:
DLA - ES

Preparing activity:
Army - CR

(Project 5935-3193)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

OMB Approval
No. 22-R255

INSTRUCTIONS: The purpose of this form is to solicit beneficial comments which will help achieve procurement of suitable products at reasonable cost and minimum delay, or will otherwise enhance use of the document. DoD contractors, government activities, or manufacturers/ vendors who are prospective suppliers of the product are invited to submit comments to the government. Fold on lines on reverse side, staple in corner, and send to preparing activity. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements. Attach any pertinent data which may be of use in improving this document. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity.

DOCUMENT IDENTIFIER AND TITLE

MIL-A-55339A ADAPTERS, CONNECTOR, COAXIAL, RADIO FRQUENCY,

NAME OF ORGANIZATION AND ADDRESS

CONTRACT NUMBER

MATERIAL PROCURED UNDER A

☐ DIRECT GOVERNMENT CONTRACT ☐ SUBCONTRACT

1. HAS ANY PART OF THE DOCUMENT CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?

A. GIVE PARAGRAPH NUMBER AND WORDING.

B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES

2. COMMENTS ON ANY DOCUMENT REQUIREMENT CONSIDERED TOO RIGID

3. IS THE DOCUMENT RESTRICTIVE?

[ ] YES [ ] NO *(If "Yes", in what way?)*

4. REMARKS

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